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BUREAU
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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

MAY 8

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REPORT FOR THE WEEK ENDING MAY 6, 1933.

HAVRE:

The week was cool with two general rains, April 29 and May 6. Early seeded wheat, oats, barley, spring rye; winter rye; and grasses growing fairly fast; but later seeding that has not emerged is making slow progress. With the exception of corn and potatoes, all seeding is done on the rotations. The varieties seeded a few days before the rotations are up nicely. Plowing for fallow is progressing. Some of the winter wheat plots are very good, but some show about 75 per cent killing. Alfalfa seems to have stood the winter in good shape. Ranges are getting in shape for fair grazing. Even with ample feed, livestock on many ranches are not in good condition, so the favorable conditions of the past ten days for grass are welcome by many stockmen.

Maximum temperature 65°; minimum, 37°; precipitation, 0.69 inch.

JUDITH BASIN:

Weather during the past week was cool and cloudy with frequent showers. Work in the fields was possible on only two days of the week, and even then the soil was too wet for the satisfactory operation of tillage machinery. With the exception of corn and potatoes, all seeding on the experimental plots has been completed. About 80 acres of land remain to be worked and seeded to crested wheatgrass and alfalfa. With the exception of land needed for experimental purposes, all land on the station will in the future be devoted to hay and pasture. The cool weather has delayed plant growth, and all vegetation is extremely backward. Winter wheat continues to improve, and much of it considered to be a total failure a few weeks ago will not be reseeded. Crested wheatgrass is making a rapid growth and is being pastured at this time. The seedings of crested wheatgrass, bromegrass, alfalfa, and sweetclover made a year ago survived the winter with fair stands.

Maximum temperature, 60°; minimum, 32°; precipitation, 0.95 inch.

HUNTLEY:

Weather during the last week has, for the most part, been favorable to crops. Light showers have kept the surface of the ground moist but have not been sufficient to build up a moisture reserve in the soil. Soil samples taken early in the week indicate that there is available moisture to a depth of 12 to 14 inches in most of the plots tested. Spring-sown crops have made rapid growth, but fall grains are still lagging. Alfalfa and cultivated grasses have responded to the warmer weather and look well. Range vegetation is still backward, and very little stock has been turned out as yet. Field work has consisted of duck-foot plowing miscellaneous plots for fallow, harrowing down fall-plowed fallows, and preparing land for corn.

Maximum temperature, 66°; minimum, 35°; precipitation, 0.20 inch.

SHERIDAN:

Seeding of miscellaneous blocks of small grain for seed and feed was completed the first of the week. Plowing of the rotations was started on the 2nd, and preparation for seeding them was completed the 4th. Wheat was sown in the rotations the 6th. Stock marked last fall to take out of the old orchard and the north end of the old shelterbelt was pulled. The small grain sown in the dates of seeding test on April 17 emerged early in the week, and now shows nearly as great a growth as winter wheat. Grasses made a rapid growth during the week, but winter wheat, rye, and alfalfa still continue growth very slowly. There is a good stand of all alfalfa and grass sown last year except the alfalfa in Rotation 42. Where crested wheatgrass was sown last fall there is a good stand now, while with alfalfa only a scattered stand now shows. In Rotation 135, where there appeared to be a very good stand last summer of sweet clover, none shows now at all. In the other seedings of sweet clover the stand is very uneven. The stand of winter wheat also is uneven this spring. On continuously cropped plots in the rotations, where sown in the stubble the stand was much too thick for normal growth, on account of volunteer wheat and a nearly perfect stand of that sown. These plots were harrowed with the spring-tooth harrow to thin the stand. On plowed plots the stand is very thin.

Maximum temperature, 64°; minimum, 37°; precipitation, 0.99 inch.

DICKINSON:

Cold, cloudy, windy, threatening weather lasted all week, yet only 0.02 inch precipitation was recorded. The surface of the soil is rather dry and hard, and a shower would be of benefit. Vegetation is backward. The first bloom on shrubbery was open on May 2 on prunus armeniaca. None of the plums or crabs have yet bloomed. This is favorable for fruit, as the delay will decrease danger of frost injury. Early seeded grain has emerged with good stands. Flax and millet were seeded on the rotations on May 5. The early plowed and duckfoot fallow plots were worked on May 6. Pasture plots consisting of bromegrass, crested wheatgrass, slender wheatgrass, Reed canary grass, alfalfa, and sweetclover, alone and in mixtures, were seeded on May 5. The seedings contained the same mixtures used in 1932, except that flax and oats were used as nurse crops on two plots each. The 1932 pasture seedings came through the winter with much better stands of grass than appeared possible in late summer. Both alfalfa and sweetclover have better stands than any of the grasses. Visitors included R.L.Shotwell, and F.A.Morton, Bureau of Entomology, Bozeman, Montana.

Maximum temperature, 62°; minimum, 30°; precipitation, 0.02 inch.

MANDAN: (For the Week ending April 29, 1933.)

Agronomy - The past week has been dry but cool. Rain is needed, as the surface soil is entirely dry. Soil samples show that the subsoil is better supplied with moisture than for a number of years. Small grain sown a week ago is delayed in germination, because of the dry condition of the surface soil. The indications are that Russian thistles will get ahead of the grain and will be troublesome all season. Barley, bromegrass, peas, and sweetclover were planted early in the week. The sweetclover planted in 1932 apparently completely winterkilled. This is the first time there has been such a heavy killing of the yellow sweetclover. Crested wheatgrass and bromegrass continue to make a good growth. Heavy frost occurred on two nights.

Maximum temperature, 75°; minimum, 22°; precipitation, 0.02 inch.

Arboriculture - Work during the week has consisted of transplanting conifer seedlings from seed beds to the transplant field. About 50,000 Colorado blue spruce and 30,000 Black Hills spruce seedlings, have been transplanted to date. The surface soil is extremely dry, which makes transplanting difficult. A block of Austrian pine has been added to the series of species testing blocks.

Horticulture - Orchards and nursery have received their first seasonal cultivation. The ground was dry and was beginning to blow in places. A good rain would greatly benefit all horticultural plantings. A considerable number of Hibernal apple trees in the west block and Hillside orchard were top-worked to new selections and other varieties. Mulch was removed from the strawberries early in the week. The first planting in the gardens has been completed, but due to the cold weather, no germination has taken place as yet. All vegetables have been transplanted to the hot beds. A new foundation planting has been made in front of the office; it is composed entirely of evergreens.

Mr.F.J.Bavendick, U.S.Weather Bureau, Bismarck, N.Dak., checked up and adjusted the various temperature and wind instruments on the 27th.

MANDAN:

Agronomy - The past week has been cold, raw, windy, and dry. The week was cloudy for the most part. Small grains are up but are growing slowly. The cool weather is no doubt a favorable condition without rain. The delayed date of wheat seeding was done late in the week. Seed blocks for corn were plowed as well as the block for the varieties. Roadways were worked and seeded to winter rye.

Maximum temperature, 63°; minimum, 31°; precipitation, 0.01 inch.

Cooperative Grazing Experiment - Grass in the pastures has made a fair start. The cattle for the grazing experiment arrived on May 2. There are 87 steers in the bunch. They are all Herefords and are of good quality but in rather poor condition.

Arboriculture - The lining out of evergreen seedlings was completed during the week. All surplus Northwest poplar rooted cutting have been planted in the cutting block field. Siberian pea tree, ash, boxelder, and chokecherry seed has emerged during the week with good stands. A precipitation period would greatly benefit the emerging seedlings and the transplanted evergreens. Surface layers of soil are extremely dry. Heavy losses in conifers have occurred on the station during the past winter. A number of Norway pine trees from 6 to 12 feet in height have either killed out entirely or suffered very severe top killing. A number of Scotch pine about 15 years old, planted close to a Siberian pea hedge have also killed out entirely. A number of jack pine and Black Hills spruce in various plantings, have either killed entirely or are showing evidence of dying at the present time. The extremely dry fall of last year is undoubtedly responsible to a large extent for the losses in conifers.

Horticulture - Killing from drying out is beginning to be in evidence. Many trees that looked alright a month ago now show considerable killing back. A good rain now would probably prevent further injury and be of great benefit to the nursery and other horticultural plantings. Potatoes have been cut and part of them planted. The usual variety tests, spacing experiments, and tuber unit tests are being carried out. The first, or dormant seasonal spray was completed early in the week. Two new hedges in the hedge test, and several rose varieties and Philadelphus species were planted. Roses and other semi-tender shrubs were uncovered and cut back.

There is considerable winter injury apparent in this class of shrubs this year, although they are not hurt seriously. The second planting in the acre garden was completed in the latter part of the week. The top soil is very dry, and but little germination of previously planted vegetables has taken place so far. The first cutting of asparagus and rhubarb took place on May 5. Lawns are greening up very slowly, due no doubt to cold and dry weather. A new lawn of crested wheatgrass planted last year is looking exceptionally good so far this spring.
Dr.E.G.Booth,N.Dak.Agricultural College, visited the station May 3.

BELLE FOURCHE:

Cool, cloudy, rainy weather prevailed throughout most of the week. Precipitation was recorded every day except one, but aside from the 0.58 inch received on April 29 and 30, the amounts have only been sufficient to keep the roads muddy and prevent work in the field. The rains have all fallen slowly, and no run-off has taken place. A total of 3.41 inches precipitation was received in April, which is 1.90 inches above normal and next to the highest on record. As most of this precipitation was received in the form of slow rains, a large part of it was retained by the soil, and crop prospects at present are better than they have been for years. The weather has been too cool for much plant growth but conditions have been favorable for the tillering of small grains. All but one of the winter wheat plots will have to be reseeded to spring wheat as soon as the soil dries sufficiently to permit working.

Maximum temperature, 58°; minimum, 35°; precipitation, 1.02 inches.

ARCHER:

During the past week the weather has been cool and wet. The only time it was possible to do field work was during May 1 and two hours on May 2. Precipitation totaling 1.47 inches has been well distributed throughout the week. The temperatures varied from 55° to 32°. Plant growth has been rather slow, nevertheless there has been a great change in the attitude of the farmer with respect to the prospects of a crop. Station work consisted of tree planting and granary work.

NORTH PLATTE:

Weather for the last four days of the week has been cloudy and cool. Precipitation on three days totals 1.23 inches. This rain, like that of two weeks ago, fell slowly and added nearly another foot to the penetration depth. The rainfall on the table since April 20 is 6.94 inches. Penetration on sod land is a little over 3 feet, and about a foot greater on cultivated land. No field work has been possible since Monday and Tuesday. Small grains are doing well, and alfalfa and pastures are developing rapidly.

AKRON:

A rain of 0.83 inch on the last day of April completed 4.58 inches of precipitation for that month. This is the second largest April precipitation within the 25-year period. Rains have continued in May, and to date 1.30 inches have been received. The heavy precipitation of 5.56 inches since April 19 has fallen as slow drizzling rains with practically no runoff. Needless to say that the agricultural outlook in this region is bright. Millet seed was hand picked for the variety plantings, and some of the station pasture fences were remodeled.

Maximum temperature, 58°; minimum, 33°; precipitation, 2.13 inches.

COLBY:

Precipitation was recorded every day. At no time did it rain harder than an easy shower, so that the loss from runoff was extremely small. The soil is now well soaked down to about 18 inches. The temperatures have been cool, but there have been no frosts. There is no more winter wheat showing up on the plots than there was before the rains set in. The barley seeded on the winter wheat plots is coming up to excellent stands. The spring small grains seeded on March 17 have at last finished coming up. On some plots the stand will be rather spotted and thin, but on most of them the stands are good.

Maximum temperature, 65°; minimum, 33°; precipitation, 2.04 inches.
Precipitation, April, 2.22 inches; January - April, 3.00 inches.

GARDEN CITY:

Two plots of wheat were seeded to flax in order to carry the cropping method as near as possible. Seed bed flax was also seeded. Soil is in excellent condition for working. Weeds are coming fast, with the late rains we have had. Winter wheat is making rapid growth, and most plots on the old project give promise of producing a normal crop. Weather has been ideal the last ten days for revival of the winter wheat following the severe drought. Temperatures have been cool, and most wheat fields are making a rapid growth. Many fields that looked like near failures are greening up and have the chance of producing light crops. Areas in all fields are thin, and weeds are bound to cause some trouble. Sections of southwestern Kansas, South and west of Dodge City will not produce any wheat. In those places the wheat was blown clear out or died early this spring. A big acreage of row crops will go in, and some land will be fallowed.

Maximum temperature, 73°; minimum, 36°; precipitation, 2.02 inches, all of which came in a slow drizzle with runoff at the minimum.

HAYS:

Rain on five days fell slowly so the ground absorbed it all. This with good rains the last ten days of April has greatly improved conditions. Winter wheat varies from a thin, short growth on such methods as late disking, stubbling-in, and drilled in kafir stalks to a heavy, thick growth about 12 inches high on fallow. All spring small grains and Canada field peas are up to a good stand and looking very fine except for the very late start. Bromegrass seeded this spring is just emerging. Weeds are coming thick all over plots and roads. It is still too wet for tillage work. Mr.H.N.Vinall visited the station May 5 and 6.

Maximum temperature, 71°; minimum, 36°; precipitation, 2.11 inches.

TUCUMCARI:

Each additional week without rain increases injury to wheat, trees and ranges, with additional soil movement. A shower of 0.03 inch during the week increased the total precipitation for 218 days to 1.76 inches. Considering both drought and wind movement, the past 7-month period has been the most extreme and severe on record for this immediate locality. No field work is being attempted, other than listing or attempting to list, where and when soil movement makes the attempt imperative. Tree rows have blown down to hard ground in most cases, and cultivation later in the season, with roots exposed in many instances, will be a problem. Grapes appear uninjured, aside from an occasional dead cane, but soil

samples indicate that moisture is very low in the vineyard. Samples taken yesterday on M. C. milo and wheat plots have not been completely dried, but from the difficulty experienced in taking the samples it is certain that very few samples will show more than 6 or 7 per cent moisture, and no doubt many will contain less than half these amounts. Wheat and rye on fallow still may produce yields, with a very light crop possible on the B. wheat plot.

Maximum temperature, 81°; minimum, 34°; precipitation, 0.03 inch.

DALHART:

A shower of 0.57 inch during the week gave a short relief from soil blowing. The soil moves much easier now than it did before the rain. All land on the station was cultivated on Monday and Tuesday, May 1 and 2, to prevent soil blowing. Listing or plowing was impossible because of the hard soil. The shower has left the station in better condition for soil blowing than before the cultivation. The wind mentioned on the preceding Saturday continued unabated during Sunday of this week. Soil erosion on the station, while bad, was not especially severe. The worst damage was caused by the formation of sand drifts from 1 to 2 feet high along the borders of wheat and rye plots. This sand came from adjoining fields. These drifts are being removed as fast as possible. The rain has permitted plowing, although in places hard chunks are still turned out. The first seeding of cotton was made immediately following the rain. It would have been impossible to cover the seed before the rain. With the exception of one early fall plowed plot of winter rye, all wheat and rye on cropped land is a failure. The fallow plots still give promise of making some grain.

Maximum temperature, 78°; minimum, 34°; precipitation, 0.62 inch.

BIG SPRING:

Although spotted rains have been received in parts of adjoining counties, this section continues dry. During the past week the wind has blown almost continuously, and on two occasions it has been strong enough to cause considerable soil movement. Winter wheat throughout the county, which got off to a good start last fall and has furnished some excellent pastures during the winter, is now deteriorating very fast. Rainfall for the month of April consisted of one light sprinkle of 0.05 inch. Not since the station was established has the rainfall for April been so light. Field work during the week has consisted of running sweeps in the lister furrows for the purpose of destroying weeds on the sides of the beds. Other work has consisted of hauling feed, and cleaning out tree rows.

Maximum temperature, 91°; minimum, 39°; precipitation, none.

LAWTON: (Report for the two weeks ending May 6, 1933.)

Weather conditions were quite favorable to crop growth April 19 to 26 when four rains amounted to 1.55 inches. This period was followed by high winds from the southwest that dried the surface soil very rapidly. One of the most beneficial rains during the season was May 4 when 0.82 inch fell rather gently with but little runoff. Good stands of sorghums were secured in the first planting on the Chinch bug sorghum resistance project and on a variety project which was planted about April 20. Kafir, Feterita, sorgo, and broomcorn planted in the rotation plots April 25 to 27 emerged to satisfactory stands May 3 to 5. Cotton planted April 15 emerged slowly and unevenly but finally resulted in fairly uniform stands. Two-year-old

sweet clover in rotations 133 and 134 was cut May 2 when in bloom, and subsequent rains have interfered with curing the heavy growth of hay. A very light crop of alfalfa on increase fields and in rotation 142 was cut May 2. The drilled plot and the cultivated row plot each yielded 550 pounds of cured hay per acre. Several of the wheat varieties are fully headed, and the first heads are showing on all other varieties. Wheat on the rotation and tillage plots is just beginning to head. The plants are heading short, and the crop does not show normal development. An acute need of moisture was evident previous to the rain on May 4. Present conditions indicate that leaf rust will be quite prevalent. Nebraska 28 and Early Blackhull are already heavily rusted. Most of the fields on the farms throughout the county are thin in stand and poorly developed. Judging from present conditions a light yield will be produced. Oats seeded February 6 and 18 in the date and rate test are about fully headed, and the rotation plots which were reseeded February 24 are about 50 per cent headed. The crop appears to be in a thrifty condition, but it is heading at a very short height. The April precipitation of 2.46 inches was only 0.57 inch below the average. Maximum temperature, 88°; minimum, 50°.

WOODWARD:

The past week has been cloudy and cool with rain on four days with a total of 0.87 inch. Wheat on fallow and on early fall plowing is responding wonderfully, but on many fields it is very thin. Trees held back first by drought and then by cool, damp weather are still coming into leaf very deliberately. The spring flowering shrubs injured by the drought and severe cold of winter and later lashed with sand and rain, have made but a poor showing. Clumps of iris scattered broadcast in protected nooks about the station grounds have given a beautiful display of color over the past week. Over the past 17 days 3.29 inches of precipitation have been received. There has been very little runoff. Hence there is accumulating rapidly, "a good season in the soil". Farmers calling almost every hour for sorghum seed seem in a very cheerful mood. Traveling salesmen report business better than at any time in the past two years. Work of the week has consisted of cultivating and plowing to check the rapidly growing weeds and wheat planted in roads, orchards, and windbreaks to prevent soil blowing. About the last of the cuttings and transplants of nursery stock were put into the soil. Much sodding was done in draws and runways.

PENDLETON:

The past week has been one of fine rains, which were sorely needed in some sections of Umatilla County. A heavy storm hit this region Saturday with 1.20 inches for the day and 0.80 inch Saturday night. Although this rain was of untold benefit to the wheat farmers of this section, it was disastrous to the sheepmen. Many bands of newly shorn sheep were being moved to the summer range in the Blue Mountains when the storm of April 29 hit, this cold rain in the lowlands and snow in the foothills killed between 18,000 and 20,000 heads of ewes. This loss of ewes will mean a large loss of lambs also. Many of the lambs have been moved to the Hermiston irrigation project, where the farmers are raising the orphan lambs on shares. The rush work of the spring has been completed, all the plowing, harrowing, and seeding has been completed. All plots have been trimmed to proper length and width. The iris furnished by the Woodward Station last spring are making a fine growth, and the early varieties are beginning to bloom. Chinese elm trees are in full leaf, lilacs are in bloom, and the black locusts are leafing out. Maximum temperature, 67°; minimum, 32°; precipitation, 2.52 inches.

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REPORT FOR THE WEEK ENDING MAY 13, 1933.

HAVRE:

All grains are coming up with excellent stands. Winter wheat shows some improvement with the cool, moist conditions of the past week. Some varieties and rotations that had poor stands have improved. Winter rye is beginning to joint, and spring rye has made very good progress, much more than other spring grains. Flax was seeded under excellent conditions, and stands of this crop should be good. Potatoes and some miscellaneous plots and commercial fields of corn were planted. Grasses, both domestic and native, made very good progress. All of the cattle are now out on grass. This is earlier by a week or ten days than the ranges are usually ready for pasture. Leaves continue to be one-fourth to one-third out. They have been this way for two or three weeks. Temperatures have been so low that there has been very little development.

Maximum temperature, 62°; minimum, 29°; precipitation, 0.83 inch.

JUDITH BASIN:

Rain and snow during the past week has prevented field work until to-day, May 13. The soil is still too wet for the best operation of machinery, but because of the lateness of the season it was considered best to resume work. Only about 10 per cent of the grain in this section of the State has been seeded, and even with the best weather conditions much June seeding will be necessary. Temperatures still continue very unfavorable to plant growth. Spring grain seeded two weeks ago is just beginning to emerge.

Maximum temperature, 54°; minimum, 29°; precipitation, 1.56 inches.

HUNTLEY:

Gentle but persistent rains have fallen throughout the week, resulting in one of the heaviest weekly totals of precipitation at this station in a number of years. The rainfall of the last week, being a continuation of rainfall of the preceding week, has brought the total precipitation for the month to 2.36 inches, which is 0.33 inch above the average for May. No run-off occurred during any of the showers. All crops have responded to the improved moisture conditions, and growth has been rapid. Alfalfa and grasses have seemingly made more progress than the annual crops. Because of the wet soil, no field work has been possible during the week.

Maximum temperature, 63°; minimum, 32°; precipitation, 2.16 inches.

SHERIDAN:

Some rain was recorded for every day of the week, the rain alternating with snow a part of the time. No field work could be done. Water is still standing in the fields in some places this morning, the 13th. No vegetation made any noticeable growth during the entire week, except that grain and alfalfa sown May 1 and earlier were beginning to emerge this morning. Skies have cleared, but it is difficult to determine just when field work will be possible.

Maximum temperature, 58°; minimum, 31°; precipitation, 2.37 inches; precipitation, March 1 - May 13, 8.42 inches.

DICKINSON:

The second week of May has continued cold and cloudy with a good rain Sunday and Monday. Cold weather has delayed development of trees and shrubbery, so they seem to be no further along than a week ago. Wheat seeding in the district is practically completed. Oats and barley are mostly in, and corn planting is just beginning. Small grains have made slow development during the week because of the continued cold weather. Grasses have continued to make good growth. Alfalfa and sweet clover are just greening up and are not yet far enough along for grazing. Alfalfa has come through the winter in good condition. Older variety tests at the station were plowed up and will be reseeded. Ladak and Grimm have come through with good stands, but more tender varieties were thin or gone entirely, so that the fields were ragged in appearance. The 1932 seedings of alfalfa came through the winter with excellent stands. Sweetclover is thin. Where seeded for green manure on rotations 31 and 32, only about 10 per cent stand is coming this spring. Dr.P.F.Trowbridge visited the station May 12. R.L. Shotwell, Bureau of Entomology, has established temporary headquarters at the station and expects to remain in this district most of the time until July 1, making a survey of the grasshopper situation and conducting experiments with poison baits.

Maximum temperature, 57°; minimum temperature, 32°;precipiation,0.81 inch.

MANDAN:

Agronomy - The past week has been cloudy and cool. A little over a half inch of rain fell early in the week. This rain came slowly and all went into the soil. Potatoes were planted during the week. Spring plowing for corn has been completed, and all preparations made for planting corn next week. Small grains are growing slowly, but all show good stands. Alfalfa has made a fair start. Crested wheatgrass is now in good condition for pasture.

Maximum temperature, 65°; minimum, 29°; precipitation, 0.62 inch.

Cooperative Grazing Experiment - Grass is growing slowly but there is now some green grass available for grazing in the coulees. The crested wheatgrass pasture which was seeded last year shows a good stand this spring and will be ready for grazing when the pasture season opens. The 87 steers were branded with individual numbers on the 10th. Their condition has improved since they arrived on May 2.

Arboriculture - Work during the week has consisted of cultivating the nursery fields, part of the testing blocks, and other tree experiments. All thistles have been cleared from hedges, and the winter's accumulation of brush in the various tree plantings. Surface moisture conditions improved during the week and are now more favorable for the emerging seedlings. American elm has set a very heavy crop of seed. Chinese elm has set practically no seed. The majority of smaller branches on the Chinese elm, on which the seed is mostly borne, were badly broken down by the sleet storm last fall. P.F.Trowbridge,Director, and J.A.Munro,State Entomologist, N. Dak. Agricultural College, visited the station this week.

BELLE FOURCHE:

Precipitation has been recorded every day for the past eleven days, and it has rained every day except one during the last half month. Substantial rains occurred on May 8 and 11, but there were only two other instances during the week in which the precipitation amounted to more than 0.10 inch. All of the moisture was absorbed by the soil. A total of 4.77 inches precipitation has been received since April 19, and 1.89 inches

of this amount have been recorded since May 1. The continued wet weather has seriously delayed the seeding of crops and the performance of all field work. Considerable small grain and most of the sugar beets still remain to be planted in this locality. It has been too cold for any appreciable amount of plant growth to take place, but small grains have tillered quite extensively.

Maximum temperature, 53°; minimum, 33°; precipitation, 1.34 inches.

ARCHER:

Snow started to fall during the evening of May 9 and continued well into the night of May 11. There was but slight breeze and the snow descended in large wet flakes. The total precipitation as recorded in the precipitations cans was 1.26 inches. During the night of May 9 the snow fell in such a manner as to collect on the edges of the cans and covered the openings. The evaporation measurement indicated that about 0.12 of an inch of precipitation should be added to the above total. The temperatures ranged from 56° to 24°. Plant growth has been very slow. The prairies are bleached, but close examination shows the grass is starting to grow. Owing to the cool wet weather and lack of feed, a considerable loss in the calf and lamb crop of this section occurred last week. Field work was possible during May 8 and 9, but since then work has been limited to tree planting and yard improvements.

NORTH PLATTE:

Rain has fallen on eight of the past eleven days, making the total rainfall for the month 2.68 inches, and 8.43 inches since April 20. Practically all of this has entered the soil where it fell. Yesterday the wind changed to the northwest, and to-day, May 13, the sun came up clear for almost the first time in three weeks. Corn planting may be possible within a few days. During 27 years, corn planting dates on the D.L.A. plots at this station have ranged from May 1 to 21, with May 12 as the mean. If planting is done during the coming week, the delay will not be important. A minimum of 32° was recorded on the 8th, but there was no frost damage. With the present margin of 13 days beyond the mean date of last killing frost, the risk from frost damage is rapidly diminishing. Trees and shrubs show more than the usual amount of killing back from winter injury and the heavy hail damage of the past summer.

AKRON:

Slow drizzling rains continued through the later part of the week. Thursday morning the ground was covered with snow, which persisted through the most of the day. A minimum temperature of 31°, which formed ice on the stock tanks, was experienced the night of the 8th. This caught the plums in full bloom, but it does not now appear that the blossoms have been injured. Orchard fruit trees have been fitfully blooming the past two weeks, with nothing definitely out but the plums. Corn planting was actively started throughout the neighborhood on May 8. The rains which set in the evening of the 9th prevented any further field activity for the week.

Maximum temperature, 68°; minimum, 31°; precipitation, 1.41 inches.

COLBY:

Precipitation was recorded every day except one. It has been in easy showers, except on the night of the 9th when there was some run-off. Field work was possible on only one day, and then the ground was too wet for most tillage operations. The ridges were leveled on those corn plots where the planting is to be done by nosing out the old furrow. The spring small grains are making excellent growth. Weeds are numerous and are beginning to make appreciable growth. The condition of the winter wheat on this station continues at zero.

Maximum temperature, 74°; minimum, 37°; precipitation, 0.71 inch.

GARDEN CITY:

Some odd plowing was done on the dry land project the past week. We are waiting for weeds to get well started before starting the spring cultivation, plowing and listing for fallow, and work of such nature. Spring seeded grains are making good growth. Winter wheat that survived the dry weather is coming along in good shape. Some plots of wheat that have a thin stand on them were harrowed to kill the small weeds. General station work consisted of plowing, working land for alfalfa and sweet-clover.

Maximum temperature, 83°; minimum, 40°; precipitation, 0.01 inch

HAYS:

Winter wheat varies from a very thin puny growth on stubbled-in plots to a thick even growth 15 inches high on fallowed plots where excellent yields are in prospect. Prospects are fair for 35 to 40 bushel yields on fallow, and 25 bushels on early prepared ground. The yields might range between 2 and 40 bushels per acre on the project. Wheat on the commercial fields of the station is very good. There is practically no difference in the prospects for wheat sown with the ordinary disk drill and that sown with the disk furrow drill on well prepared ground. On poorly prepared ground and where stubbled-in, the wheat sown with the ordinary 8-inch disk drill is better than that sown with the furrow drill. Oats, barley, and spring wheat, now up about two weeks, look fine but are a full month behind, with a full stand of weeds for competition. Rye was plowed under at a height of 18 inches and well headed. The ground was too wet to permit plowing under earlier. Due to prolonged winter drought the growth of rye was the shortest in many years. The ground is still too wet to permit plowing fallow plots now due for plowing. Alfalfa was seeded to-day, 13th. The recent rains and warm weather are developing a 100 per cent stand of weeds on every inch of ground on the Dry Land Project.

Maximum temperature, 78°; minimum, 41°; precipitation, 0.08 inch.

TUCUMCARI:

Severe climatic conditions continue, with increased wind velocity and higher evaporation the only striking characteristics. Soil movement continues unabated, and it is reported the wheat acreage of the county is fast decreasing as a result of drought and cutting sand. Watering of trees and hauling clay to roadways, in addition to miscellaneous short jobs, comprised the week's work.

Maximum temperature, 85 ; minimum, 42 ; precipitation, none; wind velocity, 10.4 miles per hour; precipitation since October 1, 1.76 inches.

DALHART:

Another discouraging week with the same windy and soil blowing weather. While field work was not impossible, it was considered inadvisable to do many things which should be done. A few increase fields were plowed. The moisture in the furrow slice dried out within 24 hours. There is no moisture below the plowing depth. More soil drifted onto the station during the week from adjoining fields. Winter wheat and rye on fallow continues to look promising. The rye is just about fully headed, and the wheat is just well started to head. Oats and winter wheat on late fall plowing are dead. Barley must have moisture soon to survive. Cotton planted immediately after the shower of last week failed to germinate before the soil dried out. The cotton furrows are rapidly filling with blow sand. Trees are still in the process of leafing out. Some trees have failed to start leaves. The dry soil and the high winds have delayed leaf emergence. Several trees and shrubs were lost by freezing during the winter. Several privets have killed to the ground and others appear dead. Most, if not all, of the Arizona Cypress were winterkilled. The brightest spot on the station now is the variety planting of Iris. Many of the varieties are blooming. The high winds dry out the flowers after they have been open a short time.

Maximum temperature, 86°; minimum, 42°; precipitation, none.

BIG SPRING:

On the night of May 12 a light sprinkle, which registered only a trace, was received. Otherwise this has been just another dry, hot week. Field work throughout this section is practically at a standstill, with the exception of a very few who are knifing lister beds. Station work has consisted of hoeing weeds out of tree rows, making and painting stakes for plots, painting scale shed, and cleaning out a fence row.

Maximum temperature, 98°; minimum, 45°; precipitation, trace.

LAWTON:

Torrential rains of 2.01 inches and 1.58 inches accompanied by some hail and driven by lashing winds on the 11th and 12th covered the young sorghum crops with eroding soil and washed some of them out. Replanting of these crops on the rotation plots will likely be rather extensive. Planting of all cotton projects, except the variety test and some date plantings, was completed just previous to the first storm; and the planting furrows are washed so full of soil that emergence hardly seems probable. Corn was badly tattered by the wind and hail, but the injury is only temporary. Small grains were uninjured and should profit greatly by the present supply of moisture. In the southwestern part of the county these storms were characterized as tornadoes that produced heavy property loss and damage and the loss of some livestock. All of the wheat varieties and practically all of the rotation plots are fully headed. All seedings of oats made up to and including February 24 are fully headed. The second planting of sorghums in the chinch bug sorghum resistance project was made May 8 and 9. The first nymphs of the first seasonal brood of chinch bugs were found in the small grain plots May 5. Two-year-old sweetclover, grown in paired rows in Rotations 133 and 134, yielded 2100 and 2400 pounds of cured hay when harvested May 2.

Maximum temperature, 96°; minimum, 51°; precipitation, May 1-13, 4.41 inches.

WOODWARD:

The past week has been characterized by cool nights, foggy mornings, moderate winds, and except on two days, maximum temperatures below 90°. Winter wheat planted early on fallow is fully headed and in splendid condition. That planted later on fallow has a fine color and a very heavy leaf growth. The wheat planted on the poorer methods has made great progress since the rains started, but because of poor stooling is not promising. Hairy winter vetch came through the winter with an excellent stand on poor blow sand, on the heavier land there is about a third of a stand, and a very meager growth. Austrian peas about which there was much enthusiasm a year ago, winterkilled to about a third of a stand. Alfalfa except in the low spots will mature the first cutting two weeks late and this will be very light. For the past three years Mr. Locke has been grafting selected walnuts on native trees. A few of the grafts have borne, and the response of the people with native walnuts has been startling. The time of the county agent over the past three weeks has been very largely occupied with instructing people with native walnuts how to graft them to the better varieties. We expect that by next year the enthusiasm will reach a rather high pitch. Walnuts do fairly well on the higher sandy lands, but grow rapidly and to large size on the bottoms. Juglans rupestris seem to graft readily to the J. nigra scions. There also seem to be hybrids of the J. nigra and J. rupestris which are rapid growing trees that make good stocks. Ulmus parvifolia is attracting more and more attention. It has never winterkilled and makes a very graceful round headed tree. It grows very slowly for the first three or four years. After that it will make a fairly rapid growth. Two or three varieties of iris have long been established on the Plains and have become so common as to be generally despised. About a hundred varieties were planted on the station several years ago. People have been very slow to show interest in them, but last Sunday probably not less than 500 persons visited the Station to see their display of bloom.

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NOTE:

Under date of May 17, 1933, the Division of Accounts, B. P. I., writes, as follows:

"I am advised that the Solicitor of this Department has rendered an informal opinion that where persons are employed for picking cotton on experimental plots on a piece basis, i.e., paid by the pound, their wages are subject to the 15% compensation deduction.

"It appears desirable therefore that where persons are hired under conditions comparable to the above, payrolls, and subvouchers where cash payments are necessary, be prepared on the compensation deduction basis."

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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

Not for publication without
prior consent of this division.

REPORT FOR THE WEEK ENDING MAY 20, 1933.

HAVRE:

Growing conditions were quite favorable during the week. Temperatures were a little low and there was rainfall on four days. Excellent stands have been obtained with all crops so far. Flax seeded last week shows an excellent stand, which is unusual for this station at this early date. Winter wheat has improved some and will soon be shooting. Winter rye has made an excellent growth, that on fallow being about 18 inches tall. All spring grains are progressing satisfactorily. Grasses have made an excellent growth. Two of the early native grasses have headed in places. Crested wheatgrass is growing rapidly and should show head in a few days. Alfalfa is also growing rapidly. Reports from the irrigated section east of here are that at least 25 per cent of the alfalfa killed this spring. Range conditions are the best for this season in the past several years.

Maximum temperature, 75°; minimum, 34°; precipitation, 0.59 inch.

JUDITH BASIN:

Precipitation during the week has brought the total for the month to date to 2.75 inches. Soil moisture conditions are the best in years. With a few days of sunshine all vegetation should make a heavy spring growth. The wet weather continues to keep farmers from the fields, and not over 25 per cent of the spring grain has been seeded. All spring grains seeded on the rotations have emerged with excellent stands. Present indications are that this will be the first season for six years that considerable resseeding will not be made necessary by drought, cutworms, and drifting soil. Potatoes were planted during the week, and progress was made in the seeding of alfalfa and grass on the general fields.

Maximum temperature, 69°; minimum, 32°; precipitation, 0.75 inch.

SHERIDAN:

Mostly fair weather throughout the week, with temperatures about normal and only one light shower, allowed field work to be carried on with only a minimum of interference from weather conditions. Seeding of all field crops ordinarily sown in April, and of flax in the rotations and varieties, was completed to-day, May 20. Plowing for corn in the rotations was attempted to-day, but the ground was still to wet to turn. Lighter soil plowed fairly well the last half of the week. All vegetation made a rapid growth throughout the week. Wheat sown in the rotations just before the last rains emerged the first of the week. Some land crusted badly as it dried on top, and in some places it was difficult to get all seed covered, even where worked again after the rains before seeding. Dr. Hildreth, of the Cheyenne Horticultural Station, arrived here the 15th and planted more fruit stock, including some stock received from Lander, Wyo. Pigs were weighed and placed on pastures early in the week.

Maximum temperature, 72°; minimum, 37°; precipitation, 0.16 inch.

HUNTLEY:

Excellent growing weather has prevailed during the last week, and all crops have made noticeable progress. Soil samples taken recently indicate that the moisture penetration from the rains of a week ago was well into the second foot of soil, and in some plots the third foot was reached. This moisture should insure a normal growth of crops for some time. The preparation of land for corn and other late crops was resumed on the 16th, and should be completed in a few days. The rotation plots are ready for corn

planting, and work is being done on the miscellaneous plots. Fall pigs were weighed and placed on the alfalfa pastures. Spring pigs were vaccinated during the week and will be placed on rye pasture at an early date. The rye has been very slow in recovering from winter injury and is much later than usual. Maximum temperature, 76°; minimum, 37°; precipitation, none.

DICKINSON:

Higher temperatures and clear skies were a welcome change after two weeks of cold cloudy weather. Although the top soil is becoming dry and rain would help, crops made a normal growth. The general crop outlook is better than at this date last year. All fruit trees and caragana hedges were sprayed during the week. Two varieties of early flowering plum are in full bloom; but most varieties of plum, apple, and crab will not be in full flower for at least another week. These fruits are blooming about ten days later than in 1932. Potatoes were planted in the rotations on May 19. Alfalfa and corn varieties and increase blocks were planted. Most of the seeding on farms, except some corn, millet and cane, is completed. F.D.Butcher, Extension Entomologist, U.S.D.A., visited the station on May 17.

Maximum temperature, 80°; minimum, 37°; precipitation, 0.02 inch.

MANDAN:

Agronomy - The past week was very favorable for field work, but poor for crop growth. No rain of value fell. Small grain crops are now nearly at a standstill. Crested wheatgrass, bromegrass, and alfalfa made little progress. All corn was planted during the week.

Maximum temperature, 83°; minimum, 39°; precipitation, 0.04 inch.

Cooperative Grazing Experiment - Grass made a good start, but there has been a light growth so far. About all that is available for grazing in the 30-acre pasture at present is "Nigger wool" sedge, and the growth of this has been retarded. The indications are now good for a light native hay crop. The cattle were weighed, divided, and started on their pastures during the week. A crested wheatgrass pasture is being grazed this year. Bromegrass and crested wheatgrass are in good condition for grazing at present. The steers averaged 722 pounds per head when turned on pasture. The cattle improved markedly in condition from the time they arrived until the start of the pasture season. They made an average gain of 44 pounds per head.

Arboriculture - The cleaning up of dead wood and other debris from test plantings has been completed during the week. Cultivation of all plantings has also been completed. Conifer seed beds of Black Hills spruce, Scotch pine, Western Yellow pine, and red cedar have been completed.

Horticulture - Hand crossing work in the orchards has been in progress most of the week. Plums, sandcherries, apples, crabs, gooseberries, Chinese cherries, and Juneberries were emasculated and crossed. The set of fruit in the greenhouse resulting from hand crossing work last March, continues to be good. Cherries in the greenhouse are now ripening. It now appears that winter injury to fruit trees will be more severe than for a number of years past. Older trees that bore heavy crops of fruit last year seem to be particularly hard hit. Especially is this true of the Japanese hybrids, which class of plums produced heavy yields of good fruit last year. Any heavy crops that may be produced this year will come from native varieties. Apples and crabs do not show as much winter injury as plums, but some varieties that produced heavy crops last year are showing but little bloom this year. Most native fruits came through the winter in good condition and are showing a heavy bloom.

The Ellendale High School students visited the station on May 18 and studied several of the projects.

BELLE FOURCHE:

The greater part of the week has been clear and warm, but cool, cloudy, wet weather has prevailed during the past two days. A heavy storm occurred the evening of May 18. Considerable hail fell, and 0.52 inch precipitation was received in about 15 minutes. The hail did not last long enough to do much injury to crops, but the run-off was so heavy that more or less damage was caused by the washing away of soil and the flooding of newly seeded plots. A number of light rains have been received since the storm, but the precipitation has not amounted to a great deal. Soil samples taken May 17 show that the first 2 feet of soil are well filled with moisture, and that the moisture has penetrated to an average depth of 28 inches on continuously cropped spring wheat plots. All crops, trees, and shrubs made a rapid growth during the warm weather. Flax and alfalfa are coming up. Fair stands of sweet clover and good stands of bromegrass have been obtained. Winter wheat seeded in standing corn stalks is making a vigorous growth, but all other winter wheat plots were duckfooted and reseeded to spring wheat early in the week. Corn plots were duckfooted and harrowed. Surface planting of corn was completed May 18, but the heavy rain prevented planting with the lister. Maximum temperature, 80°; minimum, 39°; precipitation, 0.70 inch.

ARCHER:

The weather was mild during the fore part of the week and warmer during the last part. No precipitation occurred, and the temperatures ranged from 77°;to 32°. During the last few days plant growth has been fairly rapid. It is reported that in this section most of the alfalfa winterkilled and that large stretches of native sod appear dead. The drought conditions of the past year are still having their effect. Work at the station has consisted of tillage operations, seeding in the experimental field, and planting trees. Director W.L.Quayle visited the station May 19.

NORTH PLATTE:

Weather has been clear and warm. There were no interruptions to field work, and a very large acreage of corn has been planted in this general locality. Tractor listers are being run for long hours and horses worked to capacity. On account of favorable moisture conditions and the heavy abandonment of winter wheat, the corn acreage will probably exceed any previously planted in this part of Nebraska. Corn on the D.L.A. plots was planted on the 16th and 17th. A field on the station bench planted on the 8th is beginning to emerge. Warm weather has caused a very rapid growth of alfalfa and small grains. Wheat on fallow is becoming so rank that lodging is apt to occur. First heads have appeared on rye. The annual spring Feeders' Day was held May 19. The attendance was somewhat smaller than usual on account of the rush of corn planting. L.C.Aicher, Hays, Kans., was an out-of-State visitor. Other visitors included Chancellor Burnett and Dean Burr of the Agricultural College.

AKRON:

With the first warm weather of the season field work was possible all week and the station work is well in hand. First seedings in the date of seeding beans and proso and the third seeding in the date of seeding corn were accomplished. Rotation corn and sorgo plots were seeded Friday under optimum conditions for prompt emergence. All station winter wheat except the nursery was rotary hoed in an attempt to destroy emerging weeds. The winter wheat nursery was hand weeded, and all nursery alleys were hand hoed. All station experimental plot alleys were cultivated. Cereal variety and rate and spacing cornland winter wheat plots were trimmed and the roadways duckfoot

cultivated. Some of the corn for 1934 cereal varieties was seeded. Practically all the open land intended for later experimental seedings was either duckfoot cultivated or spring-tooth harrowed. Certain crab varieties bloomed profusely early in the week. Cherry and apple trees broke into average bloom later in the week. Trees and shrubs are only now breaking into leaf.

Maximum temperature, 83°; minimum, 35°; precipitation, trace.

COLBY:

The last three days have been much warmer than those preceding. It was an ideal week for field work, although the ground was hardly dry enough for good tillage during the fore part. The corn plots were planted the 15th, and the fallow plots were plowed the 15th and 16th. The ground was somewhat wet and cold for ideal corn planting. The fallows plowed up fairly mellow. The plots were lined and trimmed the 18th, the blow furrows having been leveled the fore part of the week.

Maximum temperature, 90°; minimum, 37°; precipitation, none.

GARDEN CITY:

Cultivation of plots with a Forkner cultivator has been in progress the past week. The cultivation work was done with a Fordson tractor on the Forkner. It works very satisfactorily, and no difficulty is experienced in turning in 20-foot roadways or on the plots. Manure was hauled on some rotations having manure applications. All wheat and small grain plots were trimmed. Winter wheat is making good growth. Barley and spring grains do not seem to do very well. They are making very little growth, even with an abundance of moisture in the surface area of soil.

Maximum temperature, 97°; minimum, 40°; precipitation, 0.02 inch.

HAYS:

Maximum temperatures ranged from 90° to 96° the last three days. Winter wheat has continued normal development. On early prepared cropped land it is about 50 per cent headed, on late prepared land about 10 per cent headed, and on fallow the heads are in the boot with only very few beginning to show at this date. Generally the heads are short. The wheat on all methods, except fallow, has been wilting more or less during the last few days, and the ground is cracking considerably indicating rapid loss of moisture from the soil. Wheat on the late prepared plots is suffering most from the head and dry soil. Barley, oats and spring wheat continue to make a spreading growth as if it were only April 20 instead of May 20. Canadian Field peas are beginning to vine. Alfalfa seeded this spring is emerging and is up almost to a good stand. Bromegrass seeded this spring is very thin and promises to be a failure. During the week considerable tillage work has been done including surface cultivation of all plowed plots for row crops, curling-in of lister ridges on plots to be seeded to corn and kafir, and plowing a number of wheat stubble plots which are being fallowed. Although the ground is drying rapidly on all plots carrying a wheat crop, the wheat stubble ground remained too wet for good plowing until the latter part of this week. Considerable road and ditch work has been done, including sodding the mouths of drainage ditches to prevent washing. Maximum temperature, 96°; minimum, 41°; precipitation, none.

TUCUMCARI:

The only changes in climatic conditions the past week have been a sudden rise in temperature and considerable cessation in wind movement. Field work is impossible, and fence building and hauling caliche to station roads have been the principal station jobs. Ranges in this immediate vicinity are not improving. In spite of two or three showers within the past two months, it is reported the wheat acreage on which a crop may be produced is steadily

decreasing in the southern, wheat growing, portion of this county. Persons driving to Amarillo, Tex., 120 miles east of here, report only one field of wheat surviving within sign of the road. Usually the acreage of this crop is very high for 30 or 40 miles this side of Amarillo.

Maximum temperature, 95°; minimum, 38°; precipitation, 0.21 inch.

DALHART:

The latter part of the week the temperatures have risen and the high winds have become hot winds. Some of the larger of the ash trees in the planting north of the office are not showing any signs of leafing out. There is probably insufficient moisture in the ground to start leaf emergence. The vineyard is leafing out slowly. The dry winds keep the leaves dried out as they emerge, as there is an insufficient amount of moisture in the soil. Some field work was accomplished during the week, although the soil for the most part was dry. Row plot ground plows fairly well, but stubble ground is very hard. Unless harrowed as soon as plowed, large clods are soon formed. The first date of planting of the sorghum variety test was planted in dry ground on the 15th, and cotton was planted the 20th in dry soil. All cotton previously planted is lying in dry ground. The sand continues to blow. Many fields on farms will be listed into row crops without any previous preparation unless rain comes soon.

Maximum temperature, 95°; minimum, 36°; precipitation, none.

BIG SPRING:

Weather conditions have remained unchanged; they are still hot and dry. Good rains have been reported in the counties south and east, but those north and west are still dry. The winter wheat plots are drying up and maturing very fast. The plants stand from 12 to 18 inches high, and most of them have developed small heads. These plots will be ready for harvest next week if the weather remains unchanged. The cattle feeding experiments will be completed next week. A Feeders' Day meeting is being planned for May 26, at which time the results of the test will be announced. Station work for the week has consisted of repairing machinery, hauling feed and hoeing weeds out of the evergreen planting.

Maximum temperature, 98°; minimum, 43°; precipitation, 0.03 inch.

LAWTON:

A gently falling rain of 0.80 inch on the 14th, followed by two days of very low wind velocity delayed field work until the 17th. Patch planting was done on practically all of the rotation plots of kafir, feterita, and sorgo. Several plots were entirely replanted. The row surface of all cotton plots planted immediately before the heavy, washing rains of the previous week was scratched with an A harrow to facilitate emergence. The plants are emerging very slowly and unevenly, and present conditions indicate that considerable replanting will be necessary. The spacing test was replanted on the 18th. Practically all of the sorghums were cultivated, and all rotation plots of corn were thinned to a 30-inch stand the latter part of the week. The cotton variety test and the third date plantings were made on the 19th and 20th. The April 15 and the May 1 plantings of cotton have made but little growth, and cultivation was necessary to check the growth of crab grass and weeds. Small grains have developed nicely under the favorable moisture conditions the past week. Nebraska No. 28, now in the stiff dough stage, is rapidly approaching maturity. The presence of leaf rust on nearly all varieties is extensive. Winter barley shows a good deal of ripe grain, and the February 6 seedings of oats are showing the first brown kernels.

Maximum temperature, 89°.

WOODWARD:

With not a trace of rain since May 5, wheat is beginning to suffer for moisture. This is especially true over the past three days, when winds and temperatures have both been high. Wheat is best on land that became packed early, such as early fall plowing. On plots listed immediately after harvest and then relisted, yields will be low, though there was no weed growth between harvest and planting. They evidently dried out because soil was not thoroughly packed. It seems likely that yields will be better on plots where the previous crop was bound and the straw removed. On combined plots, straw evidently helped to keep the soil loose. Farmers have slowed up the past few days in planting row crops. The soil dries out so rapidly after planting that there is little chance of the seed coming up. Elders grow naturally in moist soils but succeed well in semiarid regions when moderately watered. An European cutleaf elder on the station grounds has a height of 10 feet and a spread of 18. The foliage is very dark green. The plant resembles box in its solidarity and massiveness of appearance. It is at present covered with great disc-like flower clusters. Two of the red berried elders, the fruit of which is strikingly attractive, were planted for trial this spring. The Virginal mockorange is now at its best. It has a great profusion of large blossoms and is one of the showiest of the mock-oranges. Work of the week has consisted of covering most of the farm with the disk, planting dates of cotton, cowpeas, and soybeans, planting tree seeds, and grassing draws. Practically all cotton in date of seeding tests is dying from some, as yet unidentified, form of root disease.

Maximum temperature, 101°; minimum, 43°; precipitation, none.

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JUN 8
BUREAU
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WEEKLY STATION REPORTS

OF THE DIVISION OF

DRY LAND AGRICULTURE

BUREAU OF PLANT INDUSTRY

U. S. DEPARTMENT OF AGRICULTURE

MAR 27 1908

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REPORT FOR THE WEEK ENDING MAY 27, 1933.

HAVRE:

The week was very favorable for growing vegetation, even though the temperatures continued rather low for the season. Grasses continue to make rapid growth. Early native grasses are well headed where not grazed. Winter rye has just started to head. Early spring grains are tillering but have not started to shoot. Early corn is up but rotation plots have not emerged. All fruit bloomed profusely. Plums have shed their bloom, and apples are now in full blossom. Common and Persian lilacs are just out and villosa is covered with buds. Iris has just started to flower. Range conditions are excellent, and cattle are gaining rapidly.

Maximum temperature, 73°; minimum, 39°; precipitation, 0.38 inch.

HUNTLEY:

This has been a week of excellent growing weather. Two showers and much warmer weather have been factors contributing to the rapid advancement made by all vegetation. Winter rye has grown very rank and is covering the ground well. Fall-sown wheat is doing well, but as the stands are spotted, weeds are coming up thickly in the bare places on the plots. Stands of most spring sown grains appear to be thick and uniform on all plots. The sown crops in the stubble and continuous cropping rotations are ahead of the weeds, which usually give some competition in these cropping methods. The preparation of cornland was delayed to some extent by showers, but the work was completed and the corn was planted in the rotation field May 26.

Maximum temperature, 81°; minimum, 37°; precipitation, 0.48 inch.

SHERIDAN:

With the exception of a heavy rain the evening of the 22nd, the week was mostly fair, with heavy wind much of the time, and with temperatures slightly below the seasonal average. Grass, alfalfa, and spring grain made good progress. Fall sown grain continues backward, although rye is beginning to head with only a sparse growth. Grain sown prior to May 20 emerged, and alfalfa sown in the varieties on the 17th and in seed plots on the 19th, and flax sown the 20th, have begun to emerge. A heavy crust, which was later broken with the rotary hoe, formed over the flax after the rain of the 22nd. Plowing for corn in the rotations was begun the 22nd but was delayed for two days on account of the rain. The plots are being harrowed for the last time to-day, 27th, in preparation for planting. Garden crops were planted, including plants received from the horticultural station at Cheyenne. Cultivation of the shelterbelt is in progress. Sheep were weighed and those in Lot 5 changed to the rye.

Maximum temperature, 85°; minimum, 37°; precipitation, 0.94 inch.

DICKINSON:

A heavy rain of 1.56 inches on the 22nd has greatly improved the crop outlook. In some nearby localities the rain was much heavier and accompanied by high wind so that some damage resulted. Good stands of corn have emerged on the rotations, which were planted May 13. Grains and pasture crops have made rapid development during the week. Most of the fruit varieties are now in full bloom, about a week later than average. The usual type of winter killing in which ends of branches die, is not apparent this year, but an occasional tree is dead. These are varieties which are apparently short-lived. Evergreen seedlings, planted in beds last spring

have come through the year with losses of only 5 to 10 per cent. Where these have been transplanted, about 100 per cent have started growth. Ash seedlings are so thick among the trees that they may be classed as weeds. The Western North Dak. Livestock Assoc. held its annual meeting at Dickinson, May 23 and 24. About 50 of the ranchers visited the station on the 24th. They were especially interested in the pasture and hay crops being grown. The purebred bull sale after the meeting was well attended, and the bulls sold well. Dr. H.C.Hanson, Botanist, N.Dak. Experiment Sta.; J. Libby, Forest Ranger, Ft.Berthold Agency, Elbowoods, N.Dak.; and Dr.J.A.Parker and F.A.Morton, Bureau of Entomology, visited the station during the week.

Maximum temperature, 82°; minimum, 45°; precipitation, 1.62 inches.

MANDAN:

Agronomy - Rain was recorded on five days during the week. The total amount was not high, but it all soaked into the ground. A severe windstorm that struck west and southwest of here destroyed a great deal of property. Grains and grasses are much improved over a week ago. Field work was delayed during the week. Plots have been lined up and prepared for trimming.

Maximum temperature, 79°; minimum, 44°; precipitation, 1.14 inches.

Cooperative Grazing Experiment - The cattle appear to be doing well on their pastures. Grass has improved since the rains.

Arboriculture - Several loads of bromegrass sod have been hauled for filling low places in fields where soil washing has been taking place. This type of control, where it has been practiced in past years, has proved very effective for preventing erosion. About 30 pounds of American elm seed has been picked. The heavy wind during the early part of the week has blown a considerable part of the seed off the trees.

Horticulture - The rainy and cloudy weather during the week was very beneficial to most horticultural plantings, but it prevented bees and other insects from working among the apple blossoms during most of the time they were in bloom, so we may expect a light set of this fruit. Plums have already set fair to heavy crops, except for trees that suffered severe winter injury or killing of blossom buds. Juneberries, currants, and gooseberries show a moderate to heavy set of fruit. Strawberries suffered considerable damage from winterkilling. They now show a fair amount of bloom. Fruit breeding work was continued when weather permitted. It appears that a good set of plums has resulted from this hand crossing work. Other work included making a new seedbed and frames for summer softwood cuttings and removing sprouts from currants and gooseberries. The third and final planting of succession and winter vegetables in the acre garden was made May 27. The earlier plantings are up with a fair stand. Transplanted plants such as cabbage, tomatoes, eggplant, pepper, and cauliflower are well established. Sweetcorn breeding selections were planted the early part of the week. The recent drizzling rain has prevented setting the tomatoes in the field as yet. Instead the flower beds on the grounds were planted. The grounds are looking very well at present. Lawns never appeared better; and lilacs, currants, spireas, and tulips are a roit of color. Considerable winterkilling of trees and shrubs is apparent. Physocarpus has its branches killed back over half the canes and Spirea Van Houtte shows much dead wood. Chinese elm and poplar are also quite badly affected, as are the Jack pines planted in groups along the "Snake" road. The Tappen, N.Dak., and Stewarts Dale, N.Dak., Schools visited the

station during the week. Dr.E.Lash, BAI Wash.,D.C., and Dr.H.H.Cohenour,BAI Bismarck,N.Dak., visited the station May 26.

BELLE FOURCHE:

A heavy storm commenced the evening of May 22 and extended into the afternoon of the following day. Approximately 2.5 inches precipitation were received during the first 30 minutes of the storm, and a total of 4.21 inches was recorded in less than 24 hours. An extremely high wind accompanied the heavy downpour, and a destructive hail occurred in a few localities. As the soil was practically saturated from previous rains, the run-off was very heavy, and a great deal of damage was done by the flood waters. Most all streams overflowed their banks, and a number of washouts along railroads and automobile highways occurred. All growing crops were injured to some extent, and in many small areas they were completely washed away or smothered. Some replanting of flax, small grain and possibly corn and alfalfa will be necessary on the dry-land rotations. Continuously cropped winter wheat plots reseeded to spring wheat shortly before the storm were covered with about 6 inches of silt in places, but the spring wheat is coming up through much of this excess covering of soil, and fair stands apparently will be secured on the various plots.

Maximum temperature, 80°; minimum, 37°; precipitation, 4.82 inches.

ARCHER:

May 22 was very windy with clouds of dust coming from the southeast during the forenoon. Early in the afternoon the wind changed suddenly and came from the northwest. The wind was so strong and the air so full of dust that it became necessary to discontinue seeding. Soil blowing was severe. The wind continued during the night and was accompanied by a rain of 0.67 inch. These conditions caused considerable damage to young crops and new growth on trees. A number of western yellow pine were loosened in the soil and left in a leaning position. Corn seeded April 15 began to emerge, and other seedings began to make much better growth. Work has consisted of tillage, seeding, and tree planting. Tree planting will be finished to-day, 27th, as will also the seeding of corn on the rotation plots and silage corn in the dairy field.

Maximum temperature, 80°; minimum, 37°; precipitation, 0.79 inch.

NORTH PLATTE:

The weather event of the week was a wind of tornado proportions on the evening of the 22nd. Nine people were killed about 40 miles north of North Platte, and property damage was heavy over a wide area. On the station, the houses and barns escaped injury; but two large machine sheds, a hog house, five poultry houses, and two windmills went down. This loss amounts to several thousand dollars and creates a difficult situation at the present time of reduced resources. Crops were badly whipped, but the injury is only temporary. Considerable recovery has already been made. A slight amount of rain accompanied the storm. This was mixed with such a quantity of dust that everything was well coated with mud the following morning. This has been the only rain for two weeks, and the top soil is becoming quite dry. Corn has emerged with good stands.

AKRON:

The weather of the week was characterized by the very severe windstorm of Monday, 22nd, and Monday night, averaging 22.7 miles per hour for the 24-hour period. During the day this wind was from the south, but by nightfall the direction had veered to the northwest. During the night 1.15 inches of rain was received. Generally, vegetation was not large enough to be whipped unduly, so this severe windstorm did a minimum of damage. Other showers during the week did not interfere with field work. All bulk corn for soil preparation another year was seeded. Rotation plots were trimmed and rotation roads blocked-out with the duckfoot cultivator. Repairing of the west pasture fence was completed. The forage sorgo variety experiment was seeded the 27th.

Maximum temperature, 86°; minimum, 44°; precipitation, 1.38 inches.

COLBY:

May 22 was one of those never to be forgotten days, even in this country. A fairly hard wind blew most of the day the 21st and continued through the night. On the 22nd the velocity gradually increased until after noon when it averaged about 36 miles per hour until about 4 o'clock. Dust from here and elsewhere filled the air. The wind kept rising up to 50, and finally between 5 and 6 p.m. it averaged 60 miles per hour. At 5 o'clock it suddenly grew pitch dark, so that it was necessary to use a flash light in taking the anemometer readings. It was as necessary to have lights everywhere as on the darkest of nights. Even with lights it was almost impossible to find your way along the highway with a car. It was cloudy and rained some. The air was so filled with dirt that the rain was mud, a reddish yellow mud. Then the sky glowed a deep crimson. Then it showered some more, and the sky turned black. After the shower the sky was crimson again, turning to orange and then to yellow, merging into the dusk of twilight about a half hour before the time for the sun to set. The sun did not come out again after penetrating the dust for a few minutes at about 4 o'clock. I have often heard of it getting pitch dark in the daytime, but this is the first time I ever saw it. If the chickens did not go to roost, it was because they never had time before it got too dark. The wind blew limbs off trees, uprooted some trees, and turned over the race horse barns at the fair grounds. During the intense darkness there was a calm. This was followed by periods of calm and fairly high wind during the night. The wind was from the southeast, south, and southwest. The next day there was a light coating of yellow dust over everything. The leaves on the south side of plants were black and dead from the effects of the wind and dust. The 23rd was fairly calm, but by 8 a.m. the wind was beginning to rise until by noon it was blowing a gale. It was almost due west, and as we were working in the field we saw it tear up and blow down the hangar at the airport across the road from the station. By afternoon it calmed down, so that the rest of the day was pleasant. The plots to be planted to the sorghums received their preliminary tillage this week. The roadways were worked with a rotary rod weeder. The sorghum plots are staked off preparatory to planting. The corn plots came up to good stands during the last three days.

Maximum temperature, 90°; minimum, 43°; precipitation, 0.11 inch.

GARDEN CITY:

Work has consisted of plowing for summer fallow, cultivation of plots preparatory to planting row crops, trimming wheat plots, and general cleaning up of the project. Winter wheat looks fair to good depending on the cultural method. On the 22nd, a hard wind in the afternoon was accompanied by a severe dust storm. At times the wind reached hurricane proportions. Severe damage to farm property resulted in nearby localities and some cities and towns. Wheat is tip burned from the severe wind and is beginning to show some yellow coloring. How much damage occurred to wheat from the severe wind is hard to state at this time.

Maximum temperature, 97°; minimum, 46°; precipitation, 0.79 inch.

HAYS:

The first part of the week was very windy, especially the 22nd when the wind velocity reached a maximum of 48 miles per hour on the project where the wind gauge is set 2 feet from the ground. The last half of the week there has been very little wind. The heavy wind the 22nd was accompanied by 0.08 inch of rain and a slight trace of hail in the evening. This was followed by 0.27 inch of rain the next day. Since then it has been very dry. Crops are wilting for lack of moisture. The temperatures during the week ranged from a minimum of 50° to 89°. The heavy wind the 22nd was very severe on winter wheat on all plots. The tips of the blades were bruised, shredded, and dried to such an extent that many of them would crumble like cured hay when rubbed. To what extent wheat is injured cannot be determined at this time. It would seem that the yield possibility has been reduced by 15 per cent in this locality. It is understood that the damage was much worse south of the station. During the week sorghum stubble plots which were listed in the fall for fallow have been relisted, and surface cultivation has been continued for weed destruction. The plot seeded to bromegrass early in the spring was reseeded.

DALHART:

The usual climatic conditions of the spring continued during the week. A light shower of 0.12 inch fell, but this was insufficient to more than check blowing for an hour. Frequent soil blowing continued. One of the worst days of soil blowing of the spring was on the 22nd. The wind attained a high velocity and carried sufficient soil to darken the air most of the day. Lights were necessary during most of the afternoon. Some plowing was done during the week, although it is difficult to do a good job. Cultivation in an attempt to prevent further soil erosion was also done. Many of the young leaves and buds on trees, vines, and shrubs were killed by the duststorm of the 22nd. With an insufficient amount of moisture in the soil, it is considered doubtful if some of the grape vines can put out a second leaf and fruit growth. A large number of the ash trees, in the planting north of the office building, are still dormant although the limbs and buds appear to be alive. E.F.Chilcott and L.F.Locke,Woodward, were station visitors.

Maximum temperature, 93°; minimum, 45°; precipitation, 0.13 inch.

TUCUMCARI:

One of the most severe windstorms on record occurred on the 22nd, with very little change of pace from 8 a.m. until 7 p.m. Evaporation that day, 0.769 inch, was the highest ever recorded on this station in 24 hours. Work has consisted primarily of building fence. No field work was attempted during the week, other than completion of stalk cutting milo plots in anticipation of spring plowing at some future date. To-morrow, May 28, will complete eight full months with only 1.97 inches precipitation. If when a man bites a dog it is news, it will likewise be news when this locality receives a beneficial, general rain.

Maximum temperature, 96°; minimum, 44°.

BIG SPRING:

Weather conditions during the past week have improve considerably. On the night of May 24 a rain of 0.94 inch was received, this being the first rain of any value since early in December. The station was practically on the southern edge of the rain area, for the territory south of town received less than a quarter of an inch. Because of the extremely dry condition of the soil and high wind velocity, nearly all spring tillage was delayed until it rained. Now an immense amount of work is at hand, all of which should have immediate attention. The cattle feeding experiments ended this week, and on the 26th a Feeders' Day Meeting was held when the results were discussed. About 300 people from this and neighboring counties attended the meeting. Sixty head of Hereford calves were purchased November 21. They were divided into four lots of 15 head each and were fed the following rations:

Lot 1.	Lot 2.	Lot 3.	Lot 4.
Unground threshed milo	Ground threshed milo	Whole milo heads	Ground milo heads
Cottonseed meal	Cottonseed meal	Cottonseed meal	Cottonseed meal
Sumac fodder	Sumac fodder	Sumac fodder	Sumac fodder
Limestone flour	Limestone flour	Limestone flour	Limestone flour

Station work has consisted of planting an increase block of feterita, plowing, and preparing for the meeting. Station visitors included, J.M.Jones, Animal Husbandry, Texas Station; T.B.Wood, District Agent, and E.H.Miller, Extension Agronomist, A. & M. College.

Maximum temperature, 99°; minimum, 53°; precipitation, 0.93 inch.

WOODWARD:

Three small showers were of little value. The worst feature of the week was a very high wind all day the 22nd, which dried and withered some heads of wheat. The soil moisture is practically exhausted, and the earlier wheat on the rotations and about the country is in milk to soft dough. Weather conditions over the next week can make for 30 bushel yields or nothing. Wheat on poorly prepared land has continued to deteriorate, until it is practically certain it will make almost nothing. A trip from Woodward west to Dalhart, then north to Springfield, Colo., and back to Greensburg, Kans., disclosed a few fairly good fields of wheat, usually planted with the furrow drill. At a rough estimate, fully 98 per cent of fields seen over this 700-mile trip will not pay for the harvesting. Between Greensburg and Pratt, Kans., however, yields will probably be far better than average. The Shadblow, more commonly known as Juneberry and Serviceberry, is beginning

to ripen its fruit. This is a clean, fresh appearing bush, some species of which grow to 18 feet, others to 3 feet. It does not grow rapidly, but should make an excellent hedge plant over the eastern half of the Plains. It is covered with white bloom in early spring and with dark red berries in June and is at all times graceful and pleasing in appearance. The Golden currant is also at this time beginning to ripen its fruit. The seed of the Smoketree is nearly ripe, and the tree itself has its usual cloudlike or misty appearance. This is large shrub, growing 15 to 20 feet, which is very well worth while. It is especially attractive during the hottest, dustiest, driest part of the year, when it always is a fresh dark green. Work of week has consisted in cultivating preparatory to planting sorghums, in laying pipe line, and in pulling up dead arborvitaes. These have suffered severe freeze injury over the past three seasons, and it seems time to end their misery and their very sickly appearance.

Maximum temperature, 94°; minimum, 56°; precipitation, 0.38 inch.

PENDLETON:

Weather conditions the past week have been favorable for all crops. The rotation corn seeded the latter part of April has emerged with only fair stands and some patching up will be necessary. Soil moisture samples taken the first week in May show that the soil is well supplied with moisture to a depth of 6 feet, with an average moisture content of well over 20 per cent in all plots. The present conditions indicate a good crop in this area with no more rain. Sweetclover will be ready to cut for hay in a few days. Alfalfa has made a fine growth this season. Tall oat, orchard grass, and smooth bromegrass are fully headed out. The early winter wheats are beginning to head. The Van Houtte Spirea and Hugonis roses are great masses of bloom. The pines in the windbreak are making fine growths this year.

Maximum temperature, 82°; minimum, 37°; precipitation, 0.12 inch;
Precipitation, May 1 - 27, 1.54 inches.

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